# Contents


STILL LOOKING FOR THE IVORY TOWER, *Howard K. Schachman* 1

CRYPTOCHROME: THE SECOND PHOTOACTIVE PIGMENT IN THE EYE AND ITS ROLE IN CIRCADIAN PHOTORECEPTION, *Aziz Sancar* 31

PROTEIN GLUCOSYLATION AND ITS ROLE IN PROTEIN FOLDING, *Armando J. Parodi* 69

SPINDLE ASSEMBLY IN ANIMAL CELLS, *Duane A. Compton* 95

CHROMOSOME COHESION, CONDENSATION, AND SEPARATION, *Tatsuya Hirano* 115

CYCLOOXYGENASES: STRUCTURAL, CELLULAR, AND MOLECULAR BIOLOGY, *William L. Smith, David L. DeWitt, and R. Michael Garavito* 145

TWO-COMPONENT SIGNAL TRANSDUCTION, *Ann M. Stock, Victoria L. Robinson, and Paul N. Goudreau* 183

APOPTOSIS SIGNALING, *Andreas Strasser, Liam O'Connor, and Vishva M. Dixit* 217

YEAST HOMOTYPIC VACUOLE FUSION: A WINDOW ON ORGANELLE TRAFFICKING MECHANISMS, *William Wickner and Albert Haas* 247

STRUCTURAL INSIGHTS INTO MICROTUBULE FUNCTION, *Eva Nogales* 277

AUTOPHAGY, CYTOPLASM-TO-VACUOLE TARGETING PATHWAY, AND PEXOPHAGY IN YEAST AND MAMMALIAN CELLS, *John Kim and Daniel J. Klionsky* 303

COUPLING OF OPEN READING FRAMES BY TRANSLATIONAL BYPASSING, *Alan J. Herr, John F. Atkins, and Raymond F. Gesteland* 343

PROTEIN TYROSINE KINASE STRUCTURE AND FUNCTION, *Stevan R. Hubbard and Jeffrey H. Till* 373

IMPORT OF PEROXISOMAL MATRIX AND MEMBRANE PROTEINS, *S. Subramani, Antonius Koller, and William B. Snyder* 399

PLATELET-ACTIVATING FACTOR AND RELATED LIPID MEDIATORS, *Stephen M. Prescott, Guy A. Zimmerman, Diana M. Stafforini, and Thomas M. McIntyre* 419

PROTEIN SPLICING AND RELATED FORMS OF PROTEIN AUTOPROCESSING, *Henry Paulus* 447

DNA REPLICATION FIDELITY, *Thomas A. Kunkel and Katarzyna Bebenek* 497

RECEPTOR BINDING AND MEMBRANE FUSION IN VIRUS ENTRY: THE INFLUENZA HEMAGGLUTININ, *John J. Skehel and Don C. Wiley* 531

MECHANISMS AND CONTROL OF mRNA DECAPPING IN *SACCHAROMYCES CEREVISIAE*, *Morgan Tucker and Roy Parker* 571

RIBOZYME STRUCTURES AND MECHANISMS, *Elizabeth A. Doherty and Jennifer A. Doudna* 597

AMINOACYL-tRNA SYNTHESIS, *Michael Ibba and Dieter Söll* 617

STRUCTURE AND FUNCTION OF HEXAMERIC HELICASES, *S. S. Patel and K. M. Picha* 651

CLATHRIN, *Tomas Kirchhausen* 699

MEDIATOR OF TRANSCRIPTIONAL REGULATION, *Lawrence C. Myers and Roger D. Kornberg* 729

CRITICAL ANALYSIS OF ANTIBODY CATALYSIS, *Donald Hilvert* 751

GTPASE-ACTIVATING PROTEINS FOR HETEROTRIMERIC G PROTEINS: REGULATORS OF G PROTEIN SIGNALING (RGS) AND RGS-LIKE PROTEINS, *Elliott M. Ross and Thomas M. Wilkie* 795

REGULATION OF CHROMOSOME REPLICATION, *Thomas J. Kelly and Grant W. Brown* 829

HELICAL MEMBRANE PROTEIN FOLDING, STABILITY, AND EVOLUTION, *Jean-Luc Popot and Donald M. Engelman* 881

SYNTHESIS OF NATIVE PROTEINS BY CHEMICAL LIGATION, *Philip E. Dawson and Stephen B. H. Kent* 923

SWINGING ARMS AND SWINGING DOMAINS IN MULTIFUNCTIONAL ENZYMES: CATALYTIC MACHINES FOR MULTISTEP REACTIONS, *Richard N. Perham* 961

STRUCTURE AND FUNCTION OF CYTOCHROME *BC* COMPLEXES, *Edward A. Berry, Mariana Guergova-Kuras, Li-shar Huang, and Antony R. Crofts* 1005

INDEXES

Subject Index 1079
Cumulative Index of Contributing Authors, Volumes 65–69 1121
Cumulative Index of Chapter Titles, Volumes 65–69 1125
Author Index 1137